



UR
MEDICINE

GOLISANO
CHILDREN'S HOSPITAL

Collaborating to Prevent Lead Poisoning in Elmira and Chemung County

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University of Rochester

MEDICINE *of* THE HIGHEST ORDER

Lead is Still All Around Us

Lead remains in the environment

- Housing – poorly maintained or when being renovated (paint & dust)
- Soil – from industrial and leaded gasoline emissions, paint chips
- Water – lead service lines, solder and fixtures containing lead
- Imported products: canned goods, cosmetics, spices, toys, candy
- Occupational and hobby exposures

Certain populations are at high risk

- Children are uniquely vulnerable
- Low income renters
- Pregnant women
- Refugee/immigrant/migrant families

Primary prevention is needed!

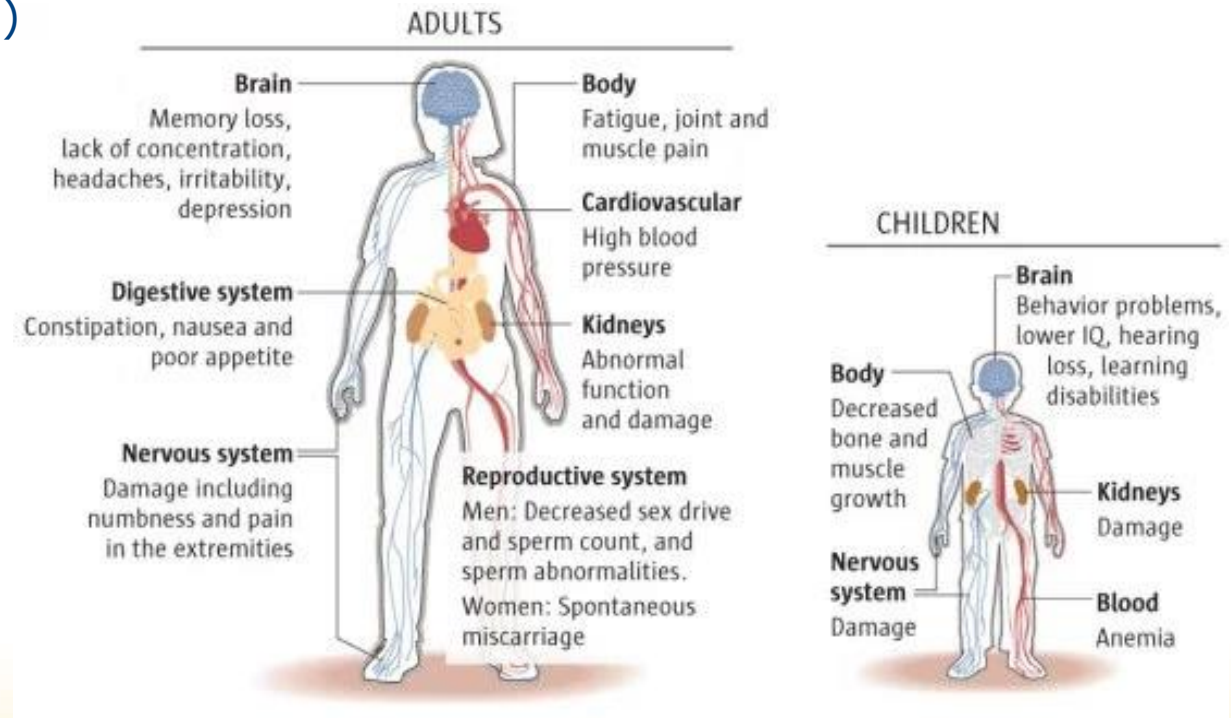


Health Effects of Lead

At very high levels, lead can cause encephalopathy, seizures, coma or death.

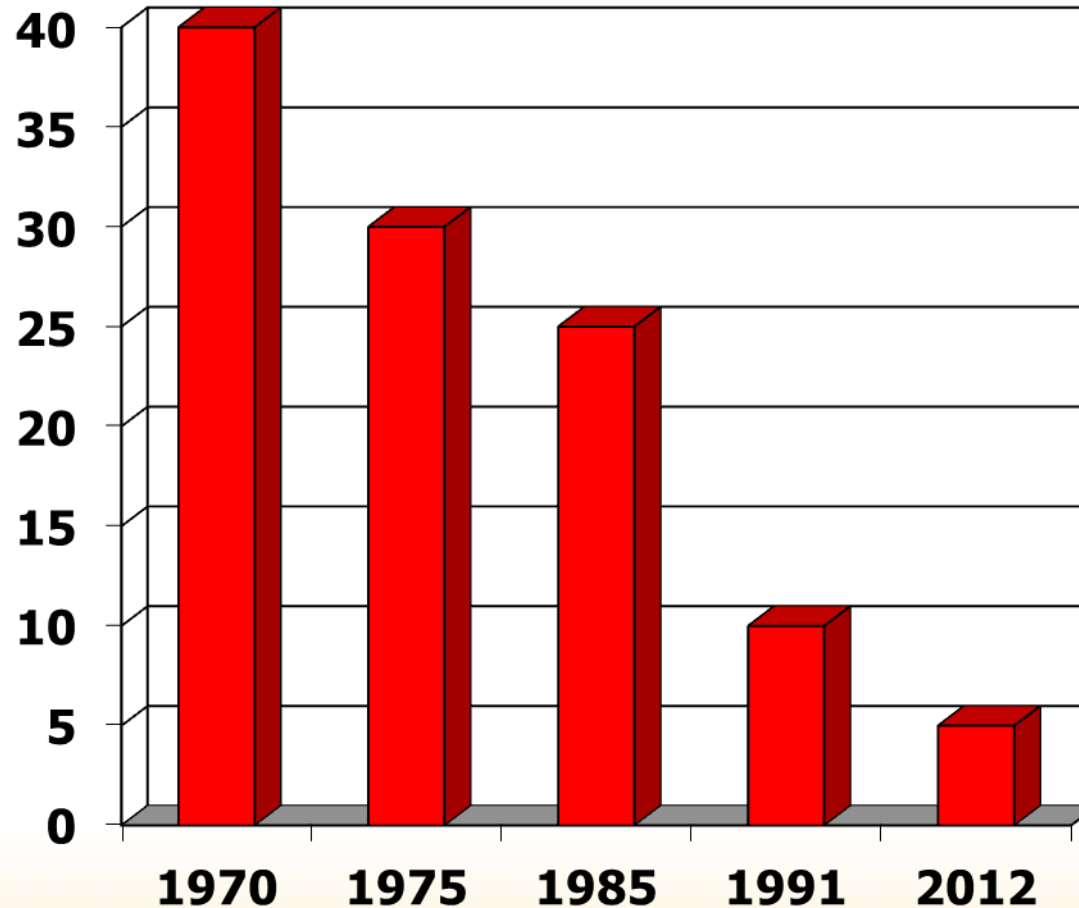
Lead can also affect many body systems:

- Renal (hypertension)
- Hematologic
- Endocrine
- Gastrointestinal
- Reproductive
- Cardiovascular
- Skeletal
- Neurologic
- Auditory



What is Considered an Elevated Lead Level?

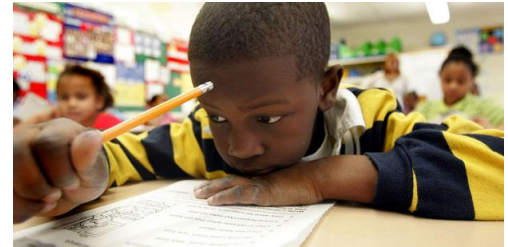
Blood Lead (ug/dL) Cut-offs As Determined by the CDC



Health Effects of Lead

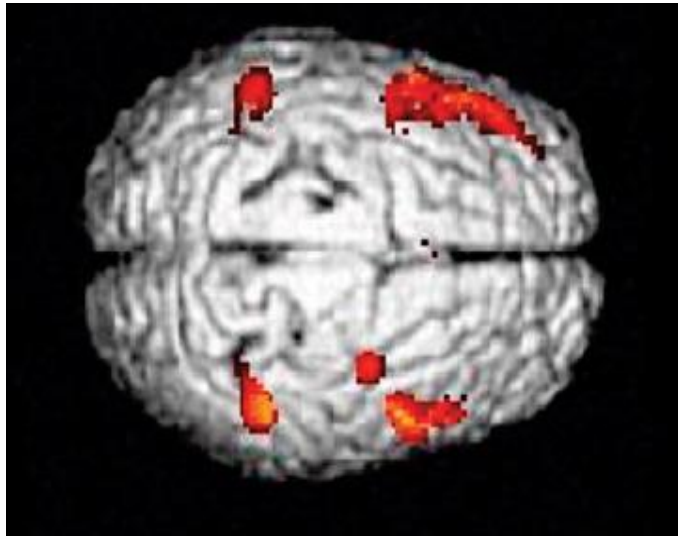
Effects at lower levels of exposure in childhood include:

- Irreversible loss of IQ
- Auditory processing difficulty
- Attention problems & distractibility (ADHD)
- Emotional dysregulation
- Higher school drop out rate
- Delinquency
- Incarceration

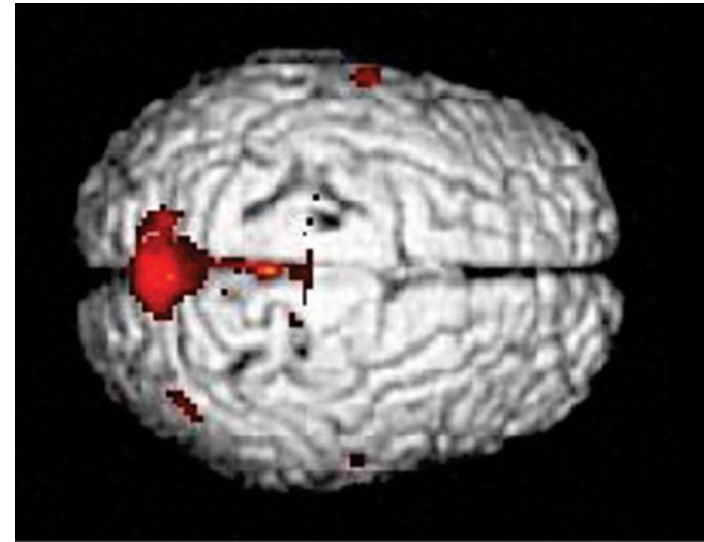


Effects of Lead on the Brain

Functional MRIs showing areas of brain function after tasks requiring impulse control were given to adults

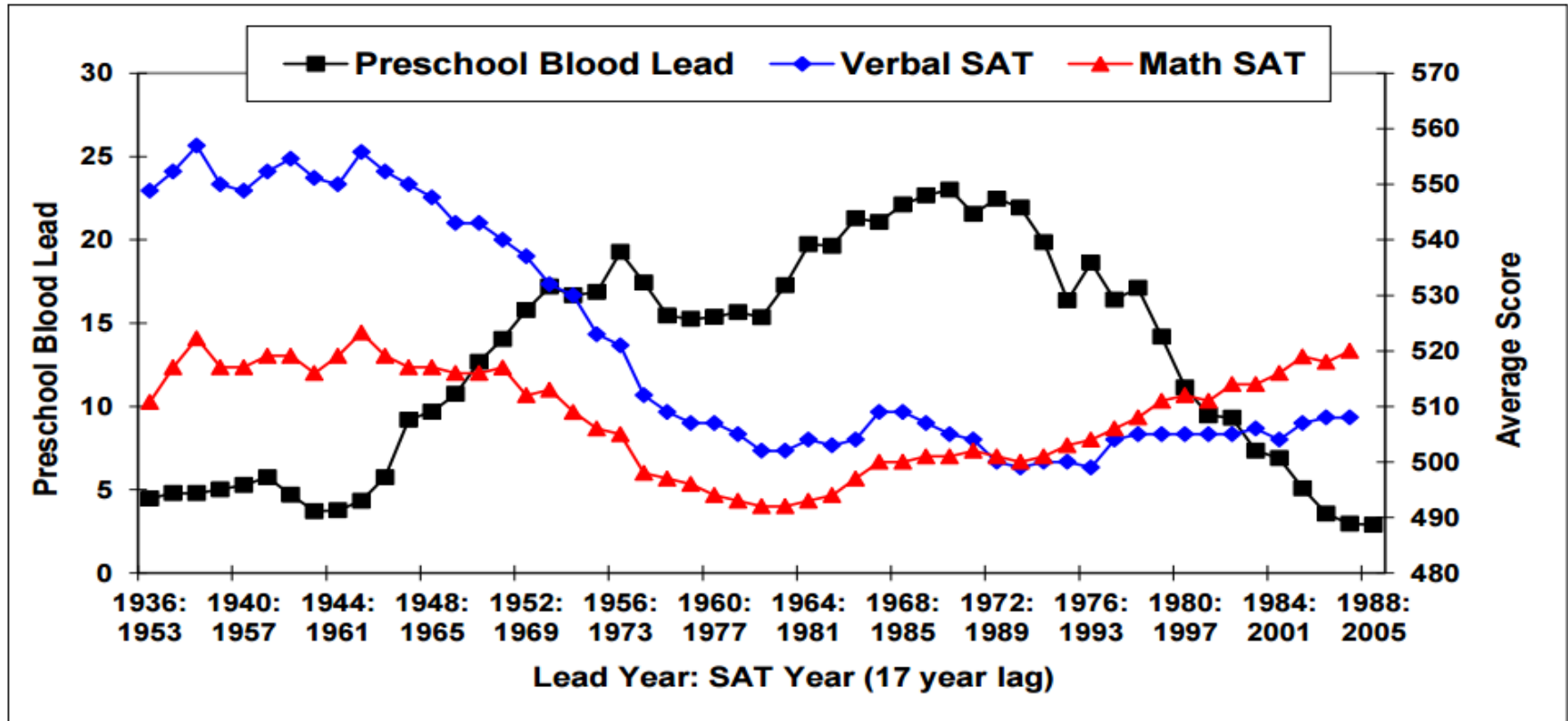


Brain of an adult who was not exposed to lead as a child



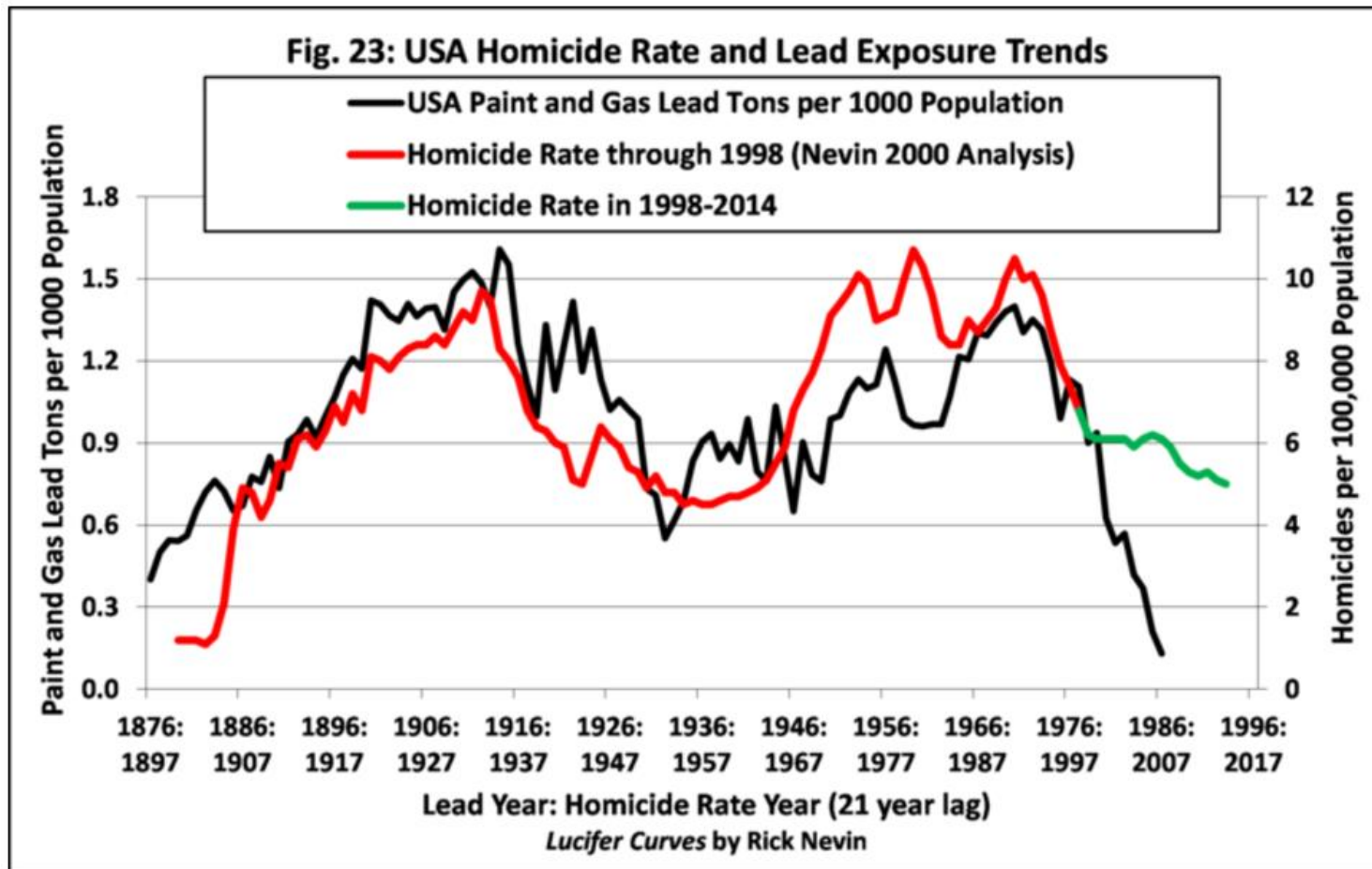
Brain of an adult who was exposed to lead as a child

Association with Standardized Test Scores



Rick Nevin 2009 Trends in preschool lead exposure, mental retardation, and scholastic achievement
<https://www.ncbi.nlm.nih.gov/pubmed/19167707>

Association with Homicide Rates



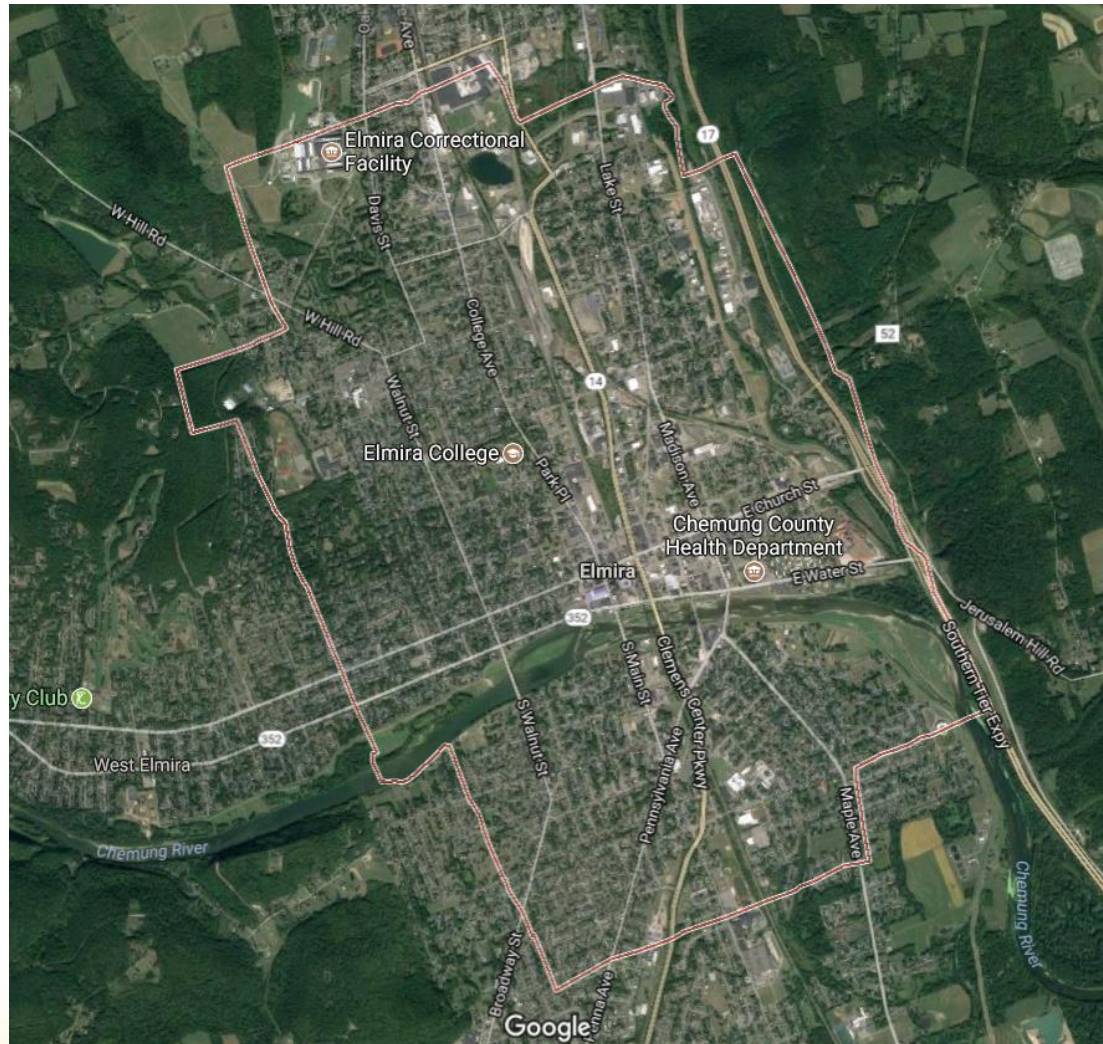
Rick Nevin 2007 Understanding international crime trends: the legacy of preschool lead exposure.
<https://www.ncbi.nlm.nih.gov/pubmed/17451672>

Rejection of Silos



Since lead poisoning is a problem that crosses disciplines affecting health, education, housing and the criminal justice system, it is not someone else's problem; it's everyone's problem.

Elmira NY – a hot spot for lead exposure



Local Predisposing Factors for Lead Exposure

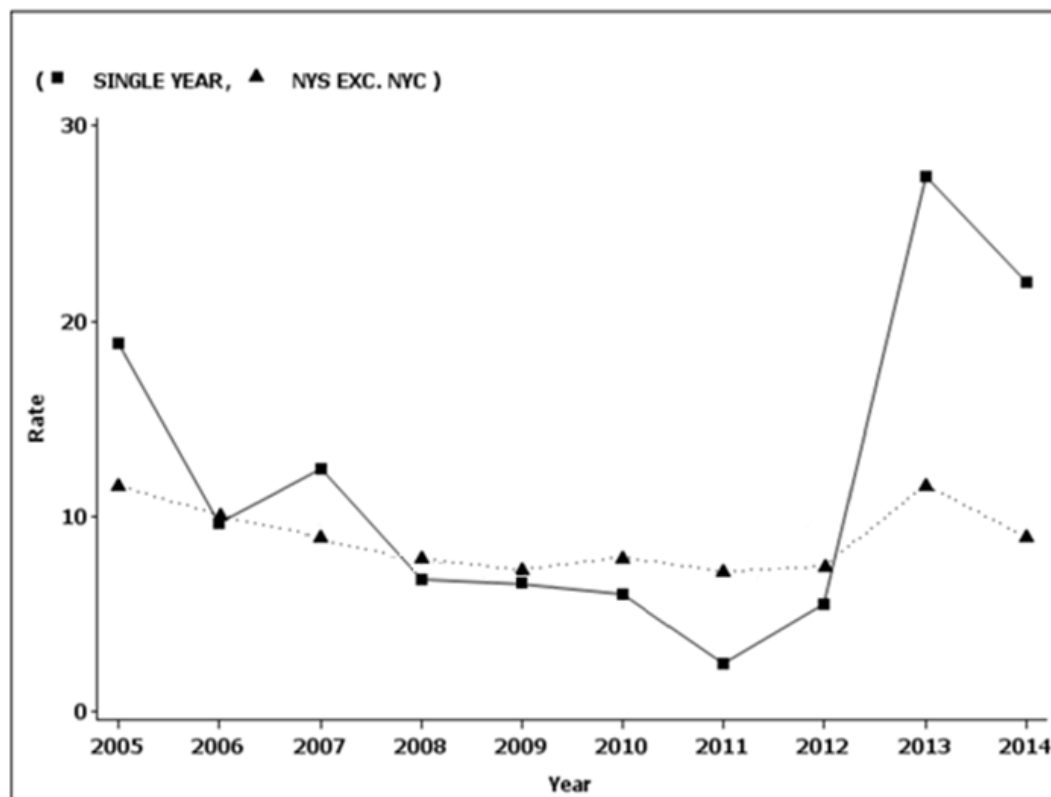
City of Elmira

- 96.9% housing built prior to 1980
- 78.3% housing built prior to 1950
- 55.8% housing is renter occupied
- 26.9% children <5 years old live below poverty level

2015 American Community Survey www.census.gov

Incidence of Confirmed BLLs ≥ 10 ug/dL

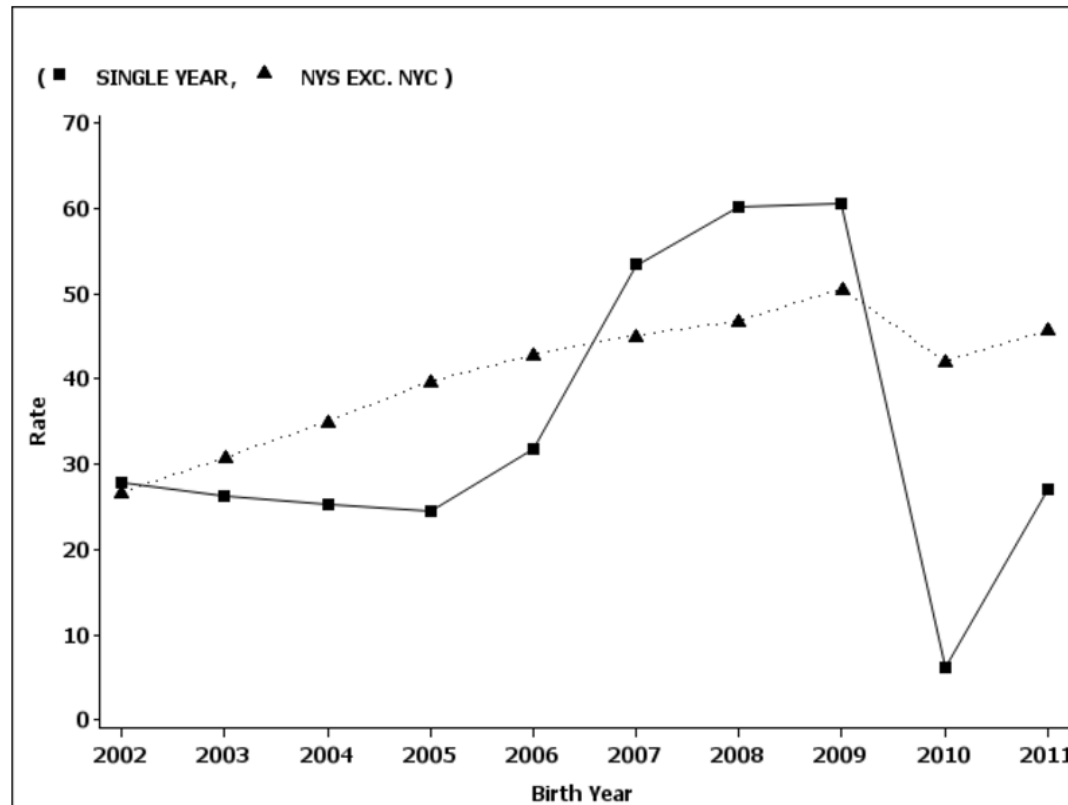
Chemung County Incidence of confirmed high blood lead level (≥ 10 ug/dL) - rate per 1,000 tested children aged <72 months



Source: 2012-2014 NYS Child Health Lead Poisoning Prevention Program Data as of June, 2016
www.health.ny.gov/statistics/chac/indicators

Blood Lead Testing Rates

Chemung County Percentage of children by birth year with at least two lead screenings by 36 months



Source: 2011-2014 NYS Child Health Lead Poisoning Prevention Program Data as of June, 2016
www.health.ny.gov/statistics/chac/indicators

Past Efforts in Lead Poisoning Prevention Collaboration



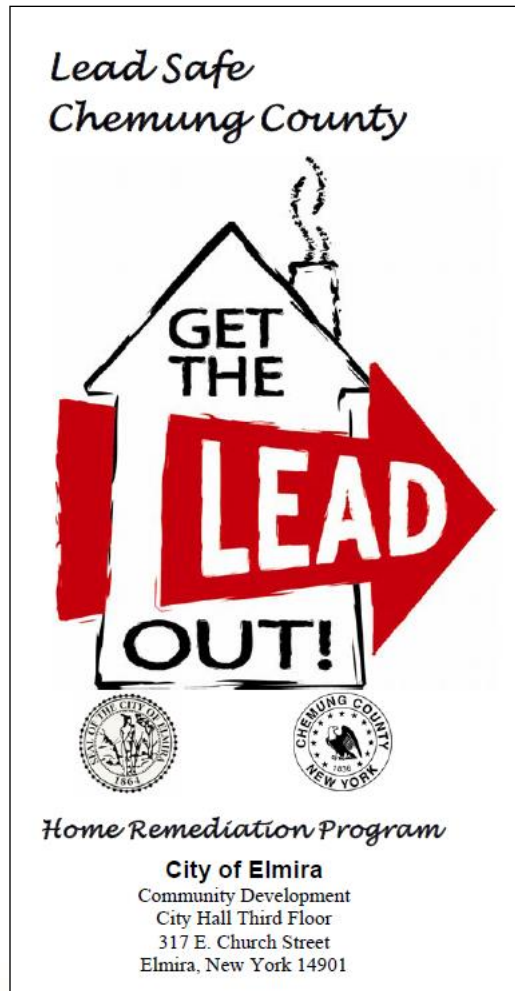
[Home](#) » [Media Center](#) » [Press Releases](#) » [May 10th 2007](#)

Kennedy Valve And Former Plant Engineer Plead Guilty To Environmental

Albany, NY (May 10, 2007) - New York State Attorney General Andrew M. Cuomo and Department of Environmental Conservation (DEC) Commissioner Pete Grannis today announced guilty pleas from an Elmira foundry and its former plant engineer for hazardous waste violations. As part of the pleas, the foundry's parent company will pay \$1.5 million to fund a Chemung County-based program to reduce childhood lead exposure.

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Past Efforts in Lead Poisoning Prevention Collaboration



Thank you to our partners

New York State
Attorney General's Office

New York State
Department of Environmental Conservation

Chemung County Health Department
607-737-2028
www.chemungcountyhealth.org

Community Progress, Inc.
607-962-3506

Near Westside Neighborhood Association
607-733-4924
www.nwnainc.com

Catholic Charities
Chemung/Schuyler, Lead Coalition

http://www.chemungcountyhealth.org/usr/Lead/city_leadprogrambrochure.pdf

Past Efforts in Lead Poisoning Prevention Collaboration

Childhood Lead Poisoning in Chemung County: Building Local Capacity and Coalitions

Final Report

Prepared by:

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University of Rochester, Environmental Health Sciences Center
501 Elmwood Avenue, Box EHSC
Rochester, NY 14642

January 31, 2009

This project was supported by New York State Health Foundation grant number SOG1-1935251

https://www.urmc.rochester.edu/MediaLibraries/URMCMedia/environmental-health-sciences-center/COEC/documents/Chemung_Final_Report.pdf

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Examples: Efforts by the City of Rochester to Address Lead Poisoning

- **Dedicated phone line to handle lead poisoning issues (as well as 311)**
- **Availability of free visual home inspections**
- **Development of the municipal lead law**
- **Financial assistance for homeowners to address lead hazards**



Examples: Rochester, NY

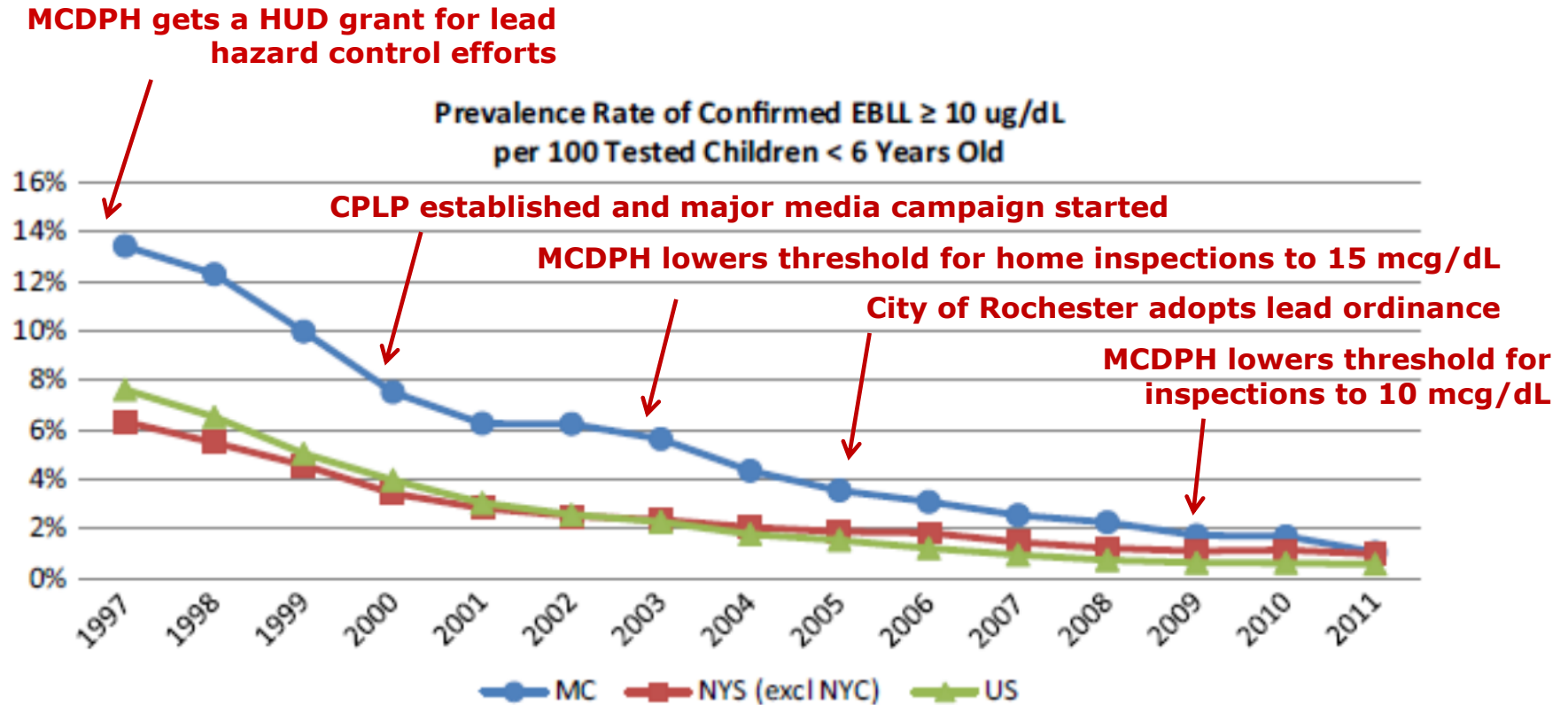


Figure 1. Trends in childhood elevated blood lead levels, 1997–2011

EBLL, elevated blood lead level; MC, Monroe County; NYS (excl NYC), New York State (excluding New York City)

Examples: Utica, NY



Department of Health

Catherine Bullwinkle



The importance of having local champions

“As the Quality Improvement Coordinator for the Oneida County Health Department, Cathe Bullwinkle has emerged as the driving force behind Oneida County’s Primary Lead Prevention Program. Her expertise and inexhaustible energy focused on eliminating the threat of childhood lead poisoning and her passion for protecting children has led to her development and implementation of lead abatement and lead poisoning programs that have become the models for counties throughout the state. She has secured millions of dollars in state and federal funds for lead testing and contractor training in lead safe work practices.”

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Examples: Chautauqua County



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Community Health Assessment

Priority: LEAD POISONING

Section II: Health Priorities

Access to Care

Asthma

Diabetes

Physical Activity

Nutrition

Tobacco

Disaster Preparedness

Healthy Births

Sexual Activity

Injury & Violence

Dental Health

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- D. **Opportunities for Action**

According to *Healthy People 2010*,

During the 1990s, the decline in childhood lead poisoning in the United States represents a public health success. In 1984, between 2 million and 3 million children aged 6 months to 5 years had blood lead levels (BLLs) greater than 15 $\mu\text{g}/\text{dL}$, and almost a quarter of a million had BLLs above 25 $\mu\text{g}/\text{dL}$, a level that can affect vital organs and the brain. (Blood levels are measured in micrograms of lead found in a deciliter of blood.) By the early 1990s, fewer than 900,000 children had BLLs above 10 $\mu\text{g}/\text{dL}$, the current standard for identifying children at risk.

The *2010 Initiative* further points out that

This dramatic reduction is the result of research to identify persons at risk, professional and public education campaigns to

Costs and Benefits

[Environ Health Perspect.](#) 2009 Jul; 117(7): 1162–1167.

PMCID: PMC2717145

Published online 2009 Mar 31. doi: [10.1289/ehp.0800408](https://doi.org/10.1289/ehp.0800408)

Research

Children's Health

Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control

[Elise Gould](#)

Economic Policy Institute, Washington, DC, USA

Conservative estimate: each dollar invested in lead paint hazard control results in a return of **\$17–\$221.**



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We are funded by NYS DOH to improve lead testing, provide education, and encourage prevention activities in our region.

NYS DOH wants us to “engage health care providers to take a leadership role in coalitions to promote lead poisoning prevention efforts.”

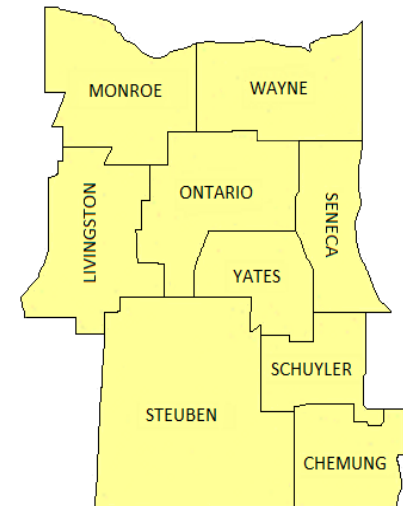
Western New York Lead Poisoning Resource Center, Rochester Office

Serving nine counties in the Finger Lakes region

Toll Free Number: 877-352-5775

Web: Golisano.urmc.edu/lead-poisoning

Facebook too!



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